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THE UNIVERSITY OF ALBERTA

A LONGITUDINAL STUDY OF THE EFFECTS ON
ACHIEVEMENT OF PROMOTION AND
NONPROMOTION AT THE GRADE III LEVEL

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION

DIVISION OF EDUCATIONAL ADMINISTRATION

by

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EDMONTON, ALBERTA

APRIL, 1961

ABSTRACT

The present organization of the elementary school requires that teachers make promotional decisions at the end of the school year. For those pupils who may be classified as low-achievers this decision is often difficult and worrisome. The findings of this experiment might be of assistance to school workers in solving this problem.

The purpose of this study is an attempt to evaluate three years after the promotional decision in grade three, the effects of promotion and nonpromotion on the achievement of matched groups of low-achieving promoted and nonpromoted pupils in the Edmonton Public Schools.

The groups, rematched on the basis of sex and I.Q., were composed of forty of sixty-six pairs from an earlier experiment by Worth. The California Achievement Test (Junior High Battery) was used to measure achievement in ten areas.

The comparisons in achievement were analyzed by application of a t test of the significance of the difference between the means of matched groups using the correlations between each of the ten achievement areas and intelligence. The statistical tests detected significant differences in favor of the promoted group, at the .01 level in reading vocabulary, total reading, arithmetic fundamentals, total arithmetic, and total test achievement, and at the .05 level in reading comprehension, arithmetic reasoning, and mechanics of English. There was no significant difference in spelling and total language.

It can be concluded that, in the areas of achievement measured, the benefits for the forty promoted low-achievers were greater than the benefits for the forty nonpromoted low-achievers.

From these data it might be implied that continued reliance upon nonpromotion to improve school achievement is unwarranted if present criteria are used. It should not be concluded, however, that automatic promotion is the answer to the instructional problem posed by the low-achiever. We should not run the risk of promoting the low-achiever to tasks beyond his comprehension. School workers must re-examine existing promotion policies with a view to clarifying the bases for promotional decisions. Attention should be given to the development of special curricula, methods, and materials designed to facilitate individualized instruction. The eventual solution may lie in the development of a form of school organization in which promotion and nonpromotion would not occur.

ACKNOWLEDGEMENTS

The writer wishes to acknowledge the contributions of the supervisory and teaching personnel of the Edmonton Elementary Schools, the Faculty Committee on Educational Research, the Edmonton Public School Board, and the Edmonton City A.T.A. Local. Also the advice and assistance of Dr. J. H. M. Andrews, Dr. W. H. Worth, and Dr. John MacDonald of the University of Alberta.

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CHAPTER I

PROBLEM AND METHOD

I. INTRODUCTION OF THE PROBLEM AND ITS JUSTIFICATION

The problem of whether to promote or not to promote a low-achieving pupil is largely one of our own making. A century has been spent in developing a curriculum for the average pupil but the below average pupil, despite any pretext to the contrary, does not move through it smoothly. The school grade system has been developed mainly because it is a useful administrative device. Under this system, when a pupil has attained certain minimum standards of achievement he is passed into the next grade at the end of the school term or year. This plan was designed to keep the range of achievement within each grade at a minimum.

However, research has revealed that in Alberta schools there are wide differences in achievement within each grade. Dunlop, Hunka, and Zingle¹ reported that in any one grade, range in achievement may extend to eight grades. In the eighth grade, for example, reading scores based on standardized test norms indicated that a few pupils read at a third grade level while some read at the grade eleven level. The average

¹G.M. Dunlop, S. Hunka, and H. Zingle, "Individual Differences in Alberta Schools," Alberta Journal of Educational Research, I: 4 (December, 1955), pp. 5-15.

spread in reading, arithmetic and language was over five grades.

Dunlop² and Clarke³ have presented further evidence of a similar sort.

How are we to cope with these huge spreads of achievement in the individual classroom in our effort to achieve the optimal learning situation?

In the attempt to solve the promotion problem four general types of promotion policies have developed in the schools of the English-speaking world:

1. Promotion based on achievement of definite scholastic or grade standards.

2. A compromise between achievement of standards and development of personal, social and emotional qualities.

3. Regular promotion with rare exceptions.

4. Continuous progress or streaming with a corresponding revision of the curriculum to allow low-achievers more time to complete units of study.

The Edmonton Public School System's promotion policy⁴ is probably a combination of (2) and (3). Ordinarily no pupil is retarded more than once in grades one to three, nor more than once in the remaining elemen-

²G.M. Dunlop, "Further Evidence of the Control of Individual Differences in the Classroom," Alberta Journal of Educational Research, (June, 1957), pp. 104-118.

³S.C.T. Clarke, "The Effect of Grouping on Variability in Achievement at the Grade III Level," Alberta Journal of Educational Research, IV: 3(September, 1958), pp. 162-171.

⁴Edmonton Public Schools, Instructions Re Annual Report of Pupil's Progress, (June, 1956).

etary grades. Instructions in regard to promotions state that they are to be made upon the recommendation of class teachers in consultation with principals. Failure in grades one to three is to take place if the degree of retardation is likely to make adjustment in the next grade extremely difficult. Retardation is to take place in grades four to six if a pupil has averaged below fifty-five per cent in all subjects in the course of the year's work or if one subject is below forty per cent. Border-line cases may be recommended for trial in the next grade.

Although, while under this 'middle-of-the-road' policy the incidence of retardation has decreased in Edmonton elementary schools, the cumulative effect is still high. McManus⁵ found that the cumulative effect of nonpromotion had resulted in approximately 35 per cent of all elementary pupils being retarded. Bevington⁶ reported that in June, 1956 there was an average failure rate of 3.7 per cent per grade or 22.2 per cent for all grades in a given year. Promotion data⁷ for June, 1958 revealed a decrease to 3 per cent per grade or 17.7 per cent for all six grades. A recent study of 212 grade-seven failures by Allison⁸ shows that more than half of the students had failed once or

⁵ Thomas M. McManus, "A Survey of Pupil Progress in Edmonton City Schools" (unpublished Master's thesis, The University of Alberta, 1950).

⁶ Wilbur G. Bevington, "Effect of Age at Time of Entrance into Grade I on Subsequent Achievement" (unpublished Master's thesis, The University of Alberta, 1957).

⁷ Edmonton Public Schools, Report on Failures, April, 1959.

⁸ Charles John Allison, "Characteristics of Students Who Failed Grade VII in Edmonton Junior High Schools, 1951-52" (unpublished Master's thesis, The University of Alberta, 1959).

more during their elementary school years.

Retardation is the usual method adopted throughout the province in dealing with differences in achievement. Placing major emphasis on academic standards will result in the failure of pupils, with the result that they will be "hold overs". S.C.T. Clarke⁹ estimated an average failure rate of 5.4 per cent for all children between grade one and grade eight inclusive in Alberta schools in 1954. Although the Promotion Policies Report shows that opinion on retardation involves a general movement away from major emphasis on rigid academic standards towards a more 'middle-of-the-road' policy, the report also suggests that the most frequent reasons given by Alberta teachers for failing students were associated with achievement in school subjects.¹⁰

Despite the unmistakable trend away from the rigid promotion standards of the past, the failure rate and the survey indicate that some educators may agree only in principle with the findings of American educational research which suggest, that in general, slow learners may profit more from promotion than from nonpromotion. However, Canadian educational programs and the expectations and attitudes of teachers, pupils and parents may be different from those in the United States. Moreover, there is a lack of Canadian evidence in regard to the long-term benefits or ill-effects of nonpromotion. The present study aims

⁹ S.C.T. Clarke, "Promotion Practices and Policies in Alberta Schools," Alberta Journal of Educational Research, I: 4 (December, 1955), pp. 24-34.

¹⁰ Alberta Department of Education, Promotion Policies Report (Edmonton, Queen's Printer, 1957), pp. 43-44.

to supply this information. Perhaps the findings may be of assistance to educators in understanding and eventually solving the promotion problem.

II. STATEMENT OF THE PROBLEM

The Purpose

The main purpose of this study is an attempt to evaluate, three years after the promotional decision in grade three, the effects of promotion and nonpromotion on the achievement of matched groups of promoted and nonpromoted low-achievers in the Edmonton Public Schools.

The Hypotheses

The hypotheses tested are:

1. That two matched groups of low-achieving pupils, one of which has been promoted and the other retarded at the end of grade three, show no differences in achievement three years later.
2. That two matched groups of low-achieving pupils, one of which has been promoted and the other retarded at the end of grade three, show differences in achievement three years later.

III. DEFINITIONS OF TERMS

Promotion - means that a pupil is moved from one grade to the next at the end of the school year.

Nonpromotion, failure, retardation - mean that a pupil is not permitted to move from one grade to the next at the end of the school

year.

Achievement - refers to scores or marks obtained in reading vocabulary, reading comprehension, arithmetic reasoning, arithmetic fundamentals, mechanics of English, and spelling as measured by the California Achievement Tests.

Low-achiever - a pupil who performs considerably below the level normally expected of his age and grade.

IV. SELECTION OF SUBJECTS

Background

This study is one of the specific problems that evolved out of a longitudinal study, a joint venture of the Faculty of Education, University of Alberta, the Edmonton Public School Board, and the Edmonton City Local of the Alberta Teachers' Association. In May-June of 1956, the California Short-Form Test of Mental Maturity, Primary, S Form and the California Achievement Test, Complete Battery (reading, arithmetic, language), Primary, Form CC were given to some 3,800 third grade pupils in the Edmonton Public School system. The second stage of this project was begun in May, 1959, with the repetition of one measure of intelligence, of reading, of language, and of arithmetic at the grade-six level.

Worth¹¹ has already done some work with the grade three data in

¹¹ Walter H. Worth, "The Effect of Promotion and Nonpromotion on Pupil Achievement and Social-Personal Development in the Elementary School" (unpublished Doctoral dissertation, The University Of Illinois, Urbana, 1959), pp. 26-28.

an attempt to show that nonpromotion based on grade standards does little to advance the achievement and social-personal development of most elementary school children. Of the 107 grade-three pupils nonpromoted in June, 1956, he ended up with sixty-six for whom it was possible to secure an appropriate promoted partner. Each promoted pupil was paired with a nonpromoted one on the basis of preliminary test data and other characteristics deemed to be important factors in affecting school progress.

The Sample

An important factor to be considered in studies of this sort is the size of sample. Of Worth's group of sixty-six pairs the writer traced some fifty-six pairs who were attending Edmonton Public Schools in May, 1959. In the process of matching these groups and eliminating some promoted pupils who subsequently failed, sixteen pairs were lost. This sample of forty pairs, located in some forty city schools, would seem to be adequate for this experiment.

The Controls

Worth assembled groups that were equivalent in most significant characteristics. They were matched with respect to sex, chronological age, total I.Q. (California Primary), and total achievement (California Primary). The testing took place prior to the promotional decision. With respect to sex the two groups were identical. Each contained nineteen girls and forty-six boys. Table I presents characteristics of

each group with respect to the other factors used in the matching.¹²

Following the May, 1959 evaluations the groups were re-matched because individual members of sixteen of the original pairs had either moved from the city or had failed in the intervening three years. Intelligence and sex were the matching variables for the remaining forty pairs. The intelligence measures used were the California Test of Mental Maturity (Elementary)¹³, and the Laycock Intelligence Test.¹⁴ Table II shows means and standard deviations for both groups on these tests. It gives also relevant statistics for chronological age, and for intelligence and achievement at the grade three level. There were fifteen girls and twenty-five boys in each group.

The many factors that might influence achievement are difficult to control. Worth¹⁵ made an effort to control socio-economic status by attempting to select promoted and nonpromoted pupils from schools which served a similar occupational and income group. Pupils' experience with standardized tests and their exposure to the varied abilities of different teachers may not have been the same. On the other hand the results may have been a reflection of a difference in standards held by teachers.

¹² Worth, op.cit., p. 29.

¹³ California Short-Form Test of Mental Maturity, Elementary, 1957 S Form, administered in May, 1959, to all Edmonton Public School sixth grade pupils and the nonpromoted group of fifth grade pupils.

¹⁴ Laycock Intelligence Test administered each October to all Edmonton Public School fifth grade pupils.

¹⁵ Worth, op.cit., p. 29.

TABLE I

THE 1956 COMPARISON OF PROMOTED AND NONPROMOTED GROUPS
 WITH REGARD TO I.Q., CHRONOLOGICAL AGE,
 AND TOTAL ACHIEVEMENT
 (66 pairs)

Statistic	I.Q.	Chronological age in months	Total achievement Grade score
Mean for P Group	94.53	108.71	3.97
Mean for NP Group	94.68	107.89	3.90
Standard deviation for P Group	12.24	6.77	.34
Standard deviation for NP Group	12.17	6.47	.34
Correlation between the P and NP Groups	+.99	+.70	+.52

TABLE II

THE 1959 COMPARISON OF PROMOTED AND NONPROMOTED GROUPS
 WITH REGARD TO INTELLIGENCE, CHRONOLOGICAL AGE,
 AND 1956 ACHIEVEMENT
 (40 pairs)

Statistic	I.Q. (1956) Calif.	I.Q. (1959)* Calif.	I.Q. (1958-59) Laycock**	Chrono. Age (1956) (months)	Total Achieve. (1956)
Mean for P Group	98.63	98.83	96.93	107.42	120.20
Mean for NP Group	98.65	98.93	96.85	106.95	117.73
Standard deviation for P Group	10.09	9.51	9.34	5.94	10.54
Standard deviation for NP Group	10.09	10.40	7.59	5.36	9.32
Correlation between the P and NP Groups	+.99	+.61		+.63	+.42
Sig. Diff. between means at .01 level	nil	nil	nil	nil	nil

* California Short-Form Test of Mental Maturity, Elementary, 1957 S Form, administered in May, 1959, to all Edmonton Public School sixth grade pupils and the nonpromoted group of fifth grade pupils.

** Laycock Intelligence Test administered each October to all Edmonton Public School fifth grade pupils.

V. COLLECTION OF DATA

The Testing Instruments

Another important consideration is the selection of objective, valid and reliable tests.

The California Short-Form Test of Mental Maturity, Elementary (1950 and 1957 S Form) provides sub-tests which yield three mental ages and three intelligence quotients: language, non-language and total. Four major factors involved in intelligence are said to be measured by this test, namely: spatial relations, logical reasoning, numerical reasoning, and verbal concepts useful in thinking. Cattell¹⁶ states that the test is:

. . . . exceedingly well designed from the point of view of adaptation to school needs and the convenience of the teacher. All the data regarding consistencies, standardization, and correlation with school progress that one could reasonably demand are clearly presented.

Shaffer¹⁷ points out that the total score coefficients of reliability range from .92 to .95. Validity is defended in terms of high correlation with the Stanford-Binet scale. These claims in addition to the fact that the California Short-Form Test of Mental Maturity requires only forty-seven minutes of testing time would appear amply to justify

¹⁶

Raymond B. Cattell, Review of California Test of Mental Maturity (The Nineteen-Forty Mental Measurements Yearbook, editor, Oscar K. Buros, 1940), pp. 1193-1194.

¹⁷

Lawrence F. Shaffer, Review of California Short-Form Test of Mental Maturity (Fourth Mental Measurements Yearbook, editor, Oscar K. Buros, 1953), p. 282.

its use in this experiment.

The California Achievement Tests (Primary and Junior High Level), according to the authors, are a series of comprehensive tests designed for the purpose of facilitating evaluation, educational measurement, and diagnosis. Each battery consists of three tests, reading, arithmetic, and language. Each of these three tests is divided into two parts: the reading test consists of Reading Vocabulary and Reading Comprehension; the arithmetic test of Arithmetic Reasoning and Arithmetic Fundamentals; and the language test of Mechanics of English and Spelling. Each of these six parts is further divided into sections.

Both the Primary and Junior High levels possess high reliability and validity. The coefficient of reliability for the former is .93; for the latter, .98. Of the validity the authors claim that the scores made on the tests show accurately the degree to which the pupil has mastered the skills measured by the tests. The fact that only seven per cent of the Reading Test items, eight per cent of the Arithmetic items, and seventeen per cent of the Mechanics of English items have phi coefficients of less than .20 reveals the over-all discrimination of the test items. The California Achievement Test showed an average correlation coefficient of .90 with the Metropolitan and Stanford achievement tests. Although the authors state that this educational instrument for measuring school achievement shows strong positive relationships, Findley¹⁸

¹⁸ Warren G. Findley, Review of California Achievement Tests (Fourth Mental Measurements Yearbook, editor, Oscar K. Buros, 1953), pp. 2-6.

questions the standardization, and the unconventional procedures used in establishing norms.

In regard to the changes in test from the California Primary form used in Worth's¹⁹ 1956-57 grade three study to the California Junior High form used in this experiment, Ottman²⁰ states:

Since the 1950 and 1957 CAT'S were standardized on different populations, it is inevitable that results from 1956 to 1959 be slightly contaminated. However, since your entire group was tested on both instruments, all individuals of both groups received the same treatment, the gains may be used for testing the significance of difference between the two groups. It is the direct interpretation of absolute gains that is contraindicated by your design.

Ottman then, agrees that the research design of this experiment is sound since both matchings respectively were based upon the same test and met the conditions noted above. Also, the comparison of the achievement of the nonpromoted group with the achievement of the promoted group is based on the scores obtained in the 1959 tests.

Administration of the Tests

An important consideration in any research design is the efficient administration of the tests. The authors of the California tests claim that they "have been so designed that they may be used by teachers with a minimum of formal training in standardized testing and diagnostic

¹⁹ Worth, op.cit., p. 47.

²⁰ Donald K. Ottman, Coordinator of Research Services, California Test Bureau. (Extract from personal letter)

procedures."²¹ The 1956 battery was administered and marked by trained senior University of Alberta students from the Faculty of Education. The 1959 battery was administered and marked by Edmonton Public School Board principals and assistant-principals who have had training and experience in standardized testing.

The Statistical Plan

The comparisons studied were based on the May, 1959 evaluations. At this time the nonpromoted pupils were in grade five, while the promoted pupils were in grade six. The lapsed time of three years was the same for both groups but the grade placement differed by one full grade. Arrangements were made to have the failed pupils tested with the grade six classes. The scores of the California Battery Achievement Test, Junior High Level, Form W, 1957, given in May, 1959, were used for purposes of comparison.

The results are reported in terms of the significant differences between the means of the educational achievement of the two matched groups as determined by the tests given in May, 1959. The achievement in the nine reading, arithmetic, and language sub-sections and the total achievement were compared. The significance of the difference between each of the two means was calculated by the formula for matched

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E.W. Tiegs, and W.W. Clarke, Manual of California Tests in Achievement, Junior High Form, California Test Bureau, Los Angeles, 1957, p. 5.

groups:

$$SE_{D_{M_1 - M_2}} = \sigma_D = \sqrt{(\sigma_{M_{x_1}}^2 + \sigma_{M_{x_2}}^2)(1 - r_{x_1 x_2}^2)}$$

$$t = \frac{M_{x_1} - M_{x_2}}{\sigma_D} \quad *$$

The correlations were between each achievement area and the matching variable, that is, the intelligence quotients obtained in June, 1959.

The t test was two-tailed because the decision in each case might be in favor of, the promoted group, or the nonpromoted group. The degrees of freedom used in testing this t were (n-1) or 39.

* Henry E. Garrett, Statistics in Psychology and Education (New York: Longmans, Green and Company, Inc., 1958), pp. 230-232.

CHAPTER II

RELATED STUDIES

Much has been written on the relative merits of promotion and nonpromotion. Monroe's Encyclopedia of Educational Research¹ sums up thirty years of research on retardation as follows:

1. Retardation (nonpromotion) does not significantly increase a slow rate of learning nor assure mastery of subject matter.
2. Retardation does not reduce variability of achievement in individual classes nor increase grade achievement averages.
3. Retardation does not improve the social-personal development of the pupil.
4. Retardation does not make for better pupil attitudes and habits.

Use of these four categories or interrelated areas will permit classification of related studies.

I. RETARDATION AND GAIN IN ACHIEVEMENT

Almost fifty years ago Keyes² was among the first who investi-

¹M.R. Sumption, and L.A. Phillips, "School Progress," Monroe's Encyclopedia of Educational Research (New York: The Macmillan Company, 1950), p. 1123.

²H.L. Caswell, and A.W. Foshay, Education in the Elementary School (New York: American Book Company, 1950), p. 362.

gated the effect of failure on gain in achievement. After a study which involved a large group of repeaters he found that only twenty-one per cent did better after repeating than before, and that thirty-nine per cent did worse. Buckingham³ obtained similar results. However, since 1939, Francis,⁴ Templin,⁵ Lobdell,⁶ Brundage,⁷ and Mateer⁸ have presented evidence that supports the idea that nonpromotion benefits pupil achievement. Lobdell found that when the teacher and the principal used definite criteria to select children who were to repeat a grade, sixty-nine per cent of the pupils made noticeable gains in achievement.

Arthur⁹ went further and attempted to estimate how well the same children might have done had they been promoted. She equated a group of sixty first-grade repeaters with a group of nonrepeaters of the same

³ B.R. Buckingham, Research for Teachers (New York: Silver Burdett, 1926), p. 381.

⁴ E.B. Francis, "A Follow-Up of Nonpromotions," Journal of Education, 122 (June, 1939), pp. 187-188.

⁵ R.S.W. Templin, "A Check-up of Nonpromotions," Journal of Education, 123 (November, 1940), pp. 259-260.

⁶ L.O. Lobdell, "Results of a Nonpromotion Policy in One School District," Elementary School Journal, (February, 1954), pp. 333-337.

⁷ E. Brundage, "Staff Study of Student Failures," Educational Administration and Supervision, 42 (November, 1956), pp. 428-435.

⁸ K.H. Mateer, "Stay or Go?" Grade Teacher, 73 (April, 1956), p. 139.

⁹ G. Arthur, "A Study of the Achievement of Sixty Grade One Repeaters as Compared With That of Non-Repeaters of the Same Mental Age," Journal of Experimental Education, 5 (December, 1936), pp. 203-205.

mental age, and found that the nonpromoted gained no more in reading over a two-year period than did the promoted. However, Arthur mentions that failure to eliminate the causes of retardation may have been a more important factor than the repeating experience.

Klene and Branson¹⁰ attempted to hold constant other factors likely to be influential when they equated, on the basis of mental age, sex and chronological age, two groups of pupils, who were to have been retained in the grade. One group was then promoted, while the other was retained. The authors concluded, after a five-month period, that the promoted group gained more in achievement than did the nonpromoted. Since the pupils were made aware of the promotional decision before the initial measures of achievement had been obtained one wonders what effect this had on the differences of pupil-achievement.

Cook and Kearney¹¹ used measures of achievement secured before the promotional decision to compare gains at the end of one semester. They found no significant difference in achievement for nonpromoted and promoted pupils of equivalent I.Q., chronological age, grade level and reading age.

Coffield and Blommers¹² analyzed the long-term effect of promo-

¹⁰V. Klene, and E.P. Branson, "Trial Promotion," Elementary School Journal, 29 (April, 1929), pp. 564-566.

¹¹W.W. Cook, Grouping and Promotion in the Elementary Schools (Minneapolis: University of Minnesota Press, 1941), pp. 44-48.

¹²W.H. Coffield, and P. Blommers, "Effects of Nonpromotion on Educational Achievement in the Elementary School," Journal of Educational Psychology, 47 (April, 1956), pp. 235-250.

tion practices on school achievement. They measured the achievement of one-hundred forty-seven pupils who had been promoted and the achievement of their nonpromoted matchees. The achievement was recorded in grades three to six at one and two-year intervals, as well as at the time when all the nonpromoted pupils were in the seventh grade. They found that slow learning children who repeat a grade, and those who were promoted, ultimately perform at about the same level when their performance is measured at the same higher grade, despite the fact that the repeaters each spent an added year in reaching the higher grade. They concluded, however, that certain uncontrolled variables, not studied in the investigation, such as chronological age, personal and social adjustment, and physical maturity, entered into the problem of nonpromotion.

Worth¹³ used data obtained before the promotional decision and controls suggested by Coffield and Blommers, in an attempt to discover how well nonpromoted children from the Edmonton Public Schools might have done had they been promoted. A group of sixty-six nonpromoted third grade low-achievers was matched with a group of low-achievers which had been promoted to the fourth grade. The matching was done on the basis of I.Q., chronological age, sex and achievement test data. Twelve aspects of the pupils' achievement were measured by standardized tests before the promotional decision and at the end of the experimental year. Although the pupils were enrolled in over eighty different classrooms there was a distinct similarity in their educational environments. Each group was taught by teachers with almost the same amount of

13

Worth, op.cit., pp. 27-29.

training and experience. As well, there was little evidence that school progress was affected by differences in health, attendance, or home and family conditions. Moreover, similarity also existed in the methods and materials employed by the teachers of each group. When the achievement was compared, the nonpromoted group made no greater, and often less, gain than the promoted group.

Wallihan¹⁴ followed a long-term procedure with matched groups of San Diego pupils, one of which had experienced nonpromotion in the first grade. Sex and mental ability were the matching variables. The performances of these grade-one pupils were analyzed in grade four and again in grade six. This study yielded definite inferences as to the futility of a child's repeating a primary grade. Similarly, in another very recent long-term experiment with matched groups of elementary pupils, Gillespie¹⁵ found non-significant gains in achievement.

Comparisons have been made between the achievement of pupils in schools with high rates of nonpromotion with the achievement of those in schools with low nonpromotion rates. Cook¹⁶ compared seventh-graders in nine schools with high nonpromotion rates, with pupils in nine schools with low nonpromotion rates. No difference in the level of achievement

¹⁴R.S. Wallihan, "A Comparative Study of Retardation in the Primary Grades of the San Diego, California, City Schools," (unpublished Doctoral dissertation, The University of Colorado, 1955), (Extracts from personal letter, 1959).

¹⁵Earl M. Gillespie, "An Evaluation of the Four Year Program as Followed in Division I of the Calgary Public Schools," (unpublished Master's thesis, The University of Alberta, 1959).

¹⁶Cook, loc.cit.

between pupils in the two groups of schools was found. A conclusion drawn after similar studies in Philadelphia schools was that:

There is no evidence that rigorous achievement standards exemplified in low rates of promotion result in more rapid growth in achievement of school groups either through elimination of pupils or more effective instruction.¹⁷

Further evidence of the effect of nonpromotion on pupil achievement was offered by Hall and Demarest's¹⁸ recent longitudinal examination of the school performance of some twenty-three thousand elementary school children. Records gathered over a ten-year period in the fourth and sixth grades were examined. The data indicated that while the average chronological ages of the pupils were definitely lowered due to a modified promotion policy, the reading grades did not change significantly over the period.

Present evidence seems to suggest that there is little apparent difference in the subsequent educational achievement of matched promoted and nonpromoted pupils. The main purpose of this experiment is to present some evidence in regard to the long-term benefits or ill effects of nonpromotion on achievement in Canadian schools.

II. RETARDATION AND VARIABILITY IN ACHIEVEMENT

Several studies have tested the hypothesis that nonpromotion

¹⁷ Caswell, op.cit., p. 356.

¹⁸ W.F. Hall, and R. Demarest, "Effect on Achievement Scores of a Change in Promotional Policy," Elementary School Journal, 58(January, 1958), pp. 204-207.

tends to reduce variability in achievement throughout the grades.

Pupils in grades five and six in forty-six schools with rates of nonpromotion ranging from nine to sixty per cent were studied by Caswell.¹⁹

Rates of promotion were compared with variability of achievement as measured by the Stanford achievement test. The investigator concluded that there was no significant difference in the amount of variability in achievement between the high-rate-of-promotion schools and the low-rate-of-promotion schools. Cheyney and Boyer,²⁰ and Akridge²¹ reached the same conclusion.

Cook²² using more rigorous controls matched nine low-rate promotion schools with nine high-rate promotion schools on the basis of pupil intelligence, parental occupation, and pupil achievement. No significant difference in variability of the classes was found when they were compared on eleven educational attainment fields and mental age.

Thus research evidence seems to support the view that schools with high rates of failure do not have grade groups less difficult to teach because of small variability of achievement.

¹⁹ Caswell, op.cit., pp. 359-360.

²⁰ W.W. Cheyney, and P.A. Boyer, "Is Nonpromotion a Defensible Policy?" Elementary School Journal, 33(May, 1933), pp. 647-651.

²¹ Caswell, op.cit., p. 362.

²² W.W. Cook, "Some Effects of the Maintenance of High Standards of Promotion," Elementary School Journal, 41(February, 1941), pp. 430-437.

III. RETARDATION AND SOCIAL-PERSONAL DEVELOPMENT

Farley, Frey and Garland²³ were among the first to gather evidence that suggested that low-achievers who are promoted tend to be better adjusted than do their nonpromoted peers. After studying one hundred ninety-three, twelve-year-old pupils, in grades four to eight, they discovered a significant relationship between nonpromotion and a low score on teacher-rated character traits. There was no attempt made to find out which of these variables had priority over another. Cook and Kearney²⁴ administered a personality inventory in an attempt to clarify this relationship. They found a significant difference in emotional stability scores in favor of the promoted pupils.

Anfinson²⁵ produced evidence which indicates that there is a very small difference favoring the promoted pupils in personal and social adjustment. One hundred sixteen pairs of junior high school pupils were matched in terms of mental ability, age, socio-economic status, sex and school attendance. While the results of the questionnaire indicated that promoted pupils showed a better adjustment to personal affairs, curriculum, and teachers, the scores for the nonpromoted ranked them higher in adjustment to homes and families, social

²³ E.S. Farley, A.J. Frey, and G. Garland, "Factors Related to the Grade Progress of Pupils," Elementary School Journal, 34 (November, 1933), pp. 186-193.

²⁴ W.W. Cook, Grouping and Promotion in the Elementary Schools (Minneapolis: University of Minnesota Press, 1941), pp. 44-48.

²⁵ R.D. Anfinson, "School Progress and Pupil Adjustment," Elementary School Journal, 41 (March, 1941), pp. 507-514.

life, and other pupils.

Other studies report incidents of social-personal maladjustment among nonpromoted pupils. Haggerty²⁶ found evidence of more undesirable behavior among nonpromoted than promoted pupils. McElwee²⁷ in a comparison of personality traits of three hundred normal, accelerated, and retarded children found a higher incidence of disobedience among children who were not promoted regularly. There was little difference between the groups in stubbornness, excitability, talkativeness, quietness, calmness, and quarrelsomeness.

Sandin²⁸ used interviews to study three hundred slow and regular-progress pupils in the elementary grades. Teachers and regularly promoted pupils rated the slow-progress pupils less favorably on a large number of behavior traits. Morrison and Perry²⁹ observed that among fourth, fifth and sixth grade children the overage child definitely had a lower choice status than his classmates. However, Taylor³⁰ concluded that

²⁶ M.E. Haggerty, "The Incidence of Undesirable Behavior in Public School Children," Journal of Educational Research, 12(September, 1925), pp. 102-122.

²⁷ E.W. McElwee, "A Comparison of the Personality Traits of 300 Accelerated, Normal, and Retarded Children," Journal of Educational Research, 26(September, 1932), pp. 31-34.

²⁸ Caswell, op.cit., p. 373.

²⁹ J.E. Morrison, and I.F. Perry, "Acceptance of Overage Children by Their Classmates," Elementary School Journal, 56(January, 1956), pp. 217-220.

³⁰ E.A. Taylor, "Some Factors Relating to Acceptance in Eighth Grade Classrooms," Journal of Educational Psychology, 48(May, 1952), pp. 257-272.

children at play tend to choose companions of the same mental age rather than those with the same chronological age.

Goodlad³¹ equated - on the basis of achievement, chronological and mental ages - a group of fifty-five nonpromoted first-grade pupils with a like number of promoted second-grade pupils. It was an attempt to discover to what extent promoted pupils, who were to have been failed on the basis of achievement, were superior to nonpromoted pupils in social adjustment. The children were given an opportunity to rate themselves and one another through the administration of personality and sociometric rating scales at the beginning and end of the school year. The Haggerty-Olson-Wickman Rating Schedules were used by the teachers at the end of the school year. In eighteen of twenty-nine instances significant differences favored the promoted group, the majority in the region of the peer-group relationships. However, the pupils in this group tended to be more disturbed over their school progress and home security than the nonpromoted pupils. The three sources of data pointed clearly to the general difficulty of the nonpromoted children in making satisfactory social adjustments in eighteen areas.

Although research studies in the social-personal development area suggest that nonpromotion is a less defensible practice than promotion, there are a number of uncontrolled variables that make any clear-cut

³¹ J.J. Goodlad, "Some Effects of Promotion and Nonpromotion Upon the Social and Personal Adjustment of Children," Journal of Experimental Education, 22(June, 1954), pp. 301-328.

interpretation of the effects of nonpromotion difficult to analyze.

IV. RETARDATIONS AND ATTITUDES AND HABITS

Sandin³² and McElwee³³ concluded that promoted pupils like school and school work more than nonpromoted pupils do. They based their conclusion of evidence supplied by sociometric tests. The attitudes and feelings of the nonpromoted pupils towards school and school life was not as indicative of a happy adjustment as the promoted slow-progress pupils. The former felt that they are discriminated against when children chose study companions. Almost all of the nonpromoted indicated that they felt discouraged and wished to quit school. About one-third felt that they had been treated unfairly by the teacher.

Investigations by Brundage,³⁴ Cheyney and Boyer,³⁵ Farley, Frey, and Garland³⁶ lend support to the view that nonpromotion tends to discourage pupils to the extent that they see little reason to put forth effort. For this reason, they concluded that nonpromotion is more apt to act as a deterrent than as a stimulus to acceptable achievement.

³² Caswell, op.cit., pp. 373-376.

³³ McElwee, loc.cit.

³⁴ E. Brundage, "Staff Study of Student Failures," Educational Administration and Supervision, 42(November, 1956), pp. 428-435.

³⁵ W.W. Cheyney, and P.A. Boyer, "Is Nonpromotion a Defensible Policy?" Elementary School Journal, 33(May, 1933), pp. 647-651.

³⁶ Farley, Frey and Garland, loc.cit.

Otto and Melby³⁷ attempted to discover the degree of difference in academic progress between pupils threatened with nonpromotion and pupils who were assured of promotion. Their purpose was to determine whether fear of nonpromotion fostered or hindered achievement. They used control and experimental groups of both fifth and second grade pupils. Similarity of conditions were maintained except for constant reminders of nonpromotion for one group and promotion for the other. No significant differences in achievement or between various I.Q. levels were observed. However, Otto and Melby wondered about the effect on achievement of a long-range continual assurance of promotion. They suspected that some pupils might develop poor work habits which would lower their levels of achievement.

V. CONCLUSION

The research evidence accumulated in the last three decades links unsatisfactory school progress more closely with the nonpromoted pupil than with the promoted. However, all evidence cannot be identified as being in favor of the promoted group. A number of short term studies have failed to provide conclusive evidence of the superiority of promotion over nonpromotion in the region of achievement which was considered. Several investigators have suggested that long-term experiments of a similar nature might supply statistical proof. The review of related

³⁷ H.J. Otto, and E.D. Melby, "An Attempt to Evaluate the Threat of Failure as a Factor in Achievement," Elementary School Journal, 35 (April, 1935), pp. 588-596.

literature revealed only one long-term study and this in the reading achievement area. There appears to be room in research for this longitudinal study on the effects of promotion and nonpromotion on achievement at the elementary level.

There is a need to check the applicability of research findings in our schools as shown by the fact that most Alberta teachers have indicated that lack of achievement by pupils in school subjects was the chief cause of failure.³⁸ The same report states that on the average, between five and six per cent of Alberta pupils in each grade from grade-one to grade-eight are failed. Possibly this study will help to alert conscientious educators in each school system and justify an examination of promotion policies in effect in the light of certain criteria recommended at the provincial level.

However, critics of the present-day school decry any practice that promotes all children.³⁹ Several submissions to the Cameron Royal Commission asked for departmental examinations in grade-eight ". . . in order to fail additional pupils and force them from the schools."⁴⁰ Some parents and educators have argued that fear of nonpromotion provides incentive, that mass promotions lower pupil morale, and that since

³⁸ S.C.T. Clarke, "Promotion Practices and Policies in Alberta Schools," The Alberta Journal of Educational Research, I:4 (December, 1955), pp. 24-33.

³⁹ "Lollipops vs. Learning," Saturday Evening Post, March 16, 1940.

⁴⁰ News item in the Edmonton Journal, April 30, 1958, p. 75.

competition and failure are prevalent in the adult world they should also be present in the children's world. The main purpose of this study is to present some evidence in regard to the long-term ill-effects or benefits of nonpromotion on achievement in Canadian schools.

CHAPTER III

ANALYSIS AND PRESENTATION OF THE DATA

The data were analyzed as described in Chapter I. Correlations were computed between intelligence and the raw scores of each of the ten achievement areas measured by the California tests. Means and standard deviations were computed for the promoted and nonpromoted groups in each achievement area. The correlations were used in the formula for finding the standard error of difference between each of the achievement means of the two groups which had originally been matched in I.Q. for mean and standard deviation.

For purposes of comparison of the achievement means in each area, the appropriate t test was applied to test the two hypotheses:

1. That two matched groups of low-achieving pupils, one of which has been promoted and the other retarded at the end of grade three, show no differences in achievement three years later.
2. That two matched groups of low-achieving pupils, one of which has been promoted and the other retarded at the end of grade three, show differences in achievement three years later.

The t tests are two-tailed and critical values for N-1 (39) pairs are 2.021 at the .05 level and 2.704 at the .01 level of significance. Where the observed values were greater than the critical values the decision was in favor of the promoted group. Where the observed value

was less, the decision was one of no difference. The following tables and the corresponding explanations give the details of these comparisons.

Reading

Table III shows the characteristics of both groups with regard to the difference in reading vocabulary, reading comprehension, and total reading as measured by the California Achievement Test. The observed differences in the means in reading vocabulary and total reading, though small, are statistically significant, and the superiority of the promoted group over the nonpromoted group is asserted in these two areas. While the difference in means in reading comprehension is significant at the .05 level, the available evidence seems to indicate that it slightly favors the promoted group.

Arithmetic

A comparison of the difference of the two groups in the areas of arithmetic measured by the California Achievement Test is presented in Table IV. The *t* test of the means indicates a statistically significant difference in arithmetic fundamentals and total arithmetic, and a slight difference at the .05 level in arithmetic reasoning. From the evidence here it would seem that in general the pupils in the promoted group possess a higher reasoning ability and do better in fundamental skills in arithmetic than the pupils in the nonpromoted group.

Language

The differences between the groups in the language areas as

TABLE III
COMPARISON OF PROMOTED AND NONPROMOTED GROUPS
WITH REGARD TO DIFFERENCES IN
ACHIEVEMENT IN READING

Characteristic	Vocabulary	Comprehension	Total
Correlation of achievement area with I.Q.	.31	.33	.36
Mean for P Group	27.58	35.85	63.43
Mean for NP Group	23.13	31.83	54.95
Standard deviation for P Group	8.37	10.65	17.10
Standard deviation for NP Group	6.77	7.77	12.11
Standard error of means	1.61	1.97	3.10
Observed value of t (N - 39)	2.76*	2.04**	2.74*

*Significant difference at the .01 level in favor of the promoted group. (critical $t = 2.704$).

**Significant difference at the .05 level in favor of the promoted group. (critical $t = 2.021$).

TABLE IV
COMPARISON OF THE PROMOTED AND NONPROMOTED
GROUPS WITH REGARD TO DIFFERENCES
IN ACHIEVEMENT IN ARITHMETIC

Characteristic	Reasoning	Fundamentals	Total
Correlation of achievement area with I.Q.	.38	.25	.33
Mean for P Group	24.03	41.83	65.85
Mean for NP Group	20.88	31.58	53.20
Standard deviation for P Group	6.26	12.55	17.64
Standard deviation for NP Group	5.95	7.10	11.04
Standard error of means	1.26	2.21	3.11
Observed value of t (N - 39)	2.50**	4.64*	4.07*

Significant difference in favor of the promoted group:

*at the .01 level. (critical $t = 2.704$).

**at the .05 level. (critical $t = 2.021$).

measured by the California Achievement Test is indicated in Table V. The observed value of t leads to a decision in favor of the hypothesis of no difference between the means of the groups in spelling and total language. In the comparison of the mechanics of English a slight significant difference in favor of the promoted group appeared at the .05 level.

Total Achievement

Table VI shows the characteristics of both groups with regard to the differences in the total achievement means as measured by the California Achievement Test. The observed value of t was + 3.70. This leads to a very significant decision in favor of the promoted group. It appears that the promoted pupils made a greater gain in total achievement than the nonpromoted group for this sample of matched groups.

TABLE V

COMPARISON OF THE PROMOTED AND NONPROMOTED
GROUPS WITH REGARD TO DIFFERENCES
IN ACHIEVEMENT IN LANGUAGE

Characteristic	Mechanics of English	Spelling	Total
Correlation of achievement area with I.Q.	.44	.15	.41
Mean for P Group	55.50	13.73	69.23
Mean for NP Group	50.38	13.63	64.00
Standard deviation for P Group	13.49	4.50	16.34
Standard deviation for NP Group	9.49	4.20	11.39
Standard error of means	2.34	.96	2.87
Observed value of t (N - 39)	2.19**	.10 ***	1.82***

** Significant difference in favor of the promoted group at the .05 level. (critical $t = 2.021$).

*** No significant difference between the groups.

TABLE VI

COMPARISON OF THE PROMOTED AND NONPROMOTED
GROUPS WITH REGARD TO DIFFERENCES
IN TOTAL ACHIEVEMENT

Characteristic	Total
Correlation of total achievement with I.Q.	.44
Mean for P Group	198.55
Mean for NP Group	172.12
Standard deviation for P Group	43.80
Standard deviation for NP Group	24.70
Standard error of means	7.14
Observed value of t ($N = 39$)	3.70*

* Significant difference at the .01 level in favor of the promoted group. (critical $t = 2.704$).

TABLE VII

SUMMARY COMPARISON OF PROMOTED AND NONPROMOTED GROUPS WITH REGARD TO DIFFERENCES IN TEN ACHIEVEMENT AREAS EXPRESSED IN RAW SCORES

Achievement Area	Mean		Standard Deviation		Standard Deviation NP	Error of the Mean	Observed Value of t
	P	NP	P	NP			
Reading vocabulary	27.58	23.13	8.37	6.77	1.61	2.76 *	
Reading comprehension	35.85	31.83	10.65	7.77	1.97	2.04 **	
Total reading	63.43	54.95	17.10	12.11	3.10	2.74 *	
Arithmetic reasoning	24.03	20.88	6.26	5.95	1.26	2.50 **	
Arithmetic fundamentals	41.83	31.58	12.55	7.10	2.21	4.64 *	
Total arithmetic	65.85	53.20	17.64	11.04	3.11	4.07 *	
Mechanics of English	55.50	50.38	13.49	9.49	2.34	2.19 **	
Spelling	13.73	13.63	4.50	4.20	.96	.10 ***	
Total language	69.23	64.00	16.34	11.39	2.87	1.82 ***	
Total achievement	198.55	172.12	43.80	24.70	7.14	3.70 *	

Critical level of $t = 2.704$ at the .01 level; 2.021 at the .05 level.

*The achievement of the promoted group was significantly superior to that of the nonpromoted at the .01 level.

**The achievement of the promoted group was significantly superior to that of the nonpromoted at the .05 level.

***There was no significant difference between the achievement of the two groups in these areas.

CHAPTER IV

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

I. CONCLUSIONS

1. Reading vocabulary and total reading achievement. Differences in achievement in both cases were significant at the .01 level of confidence. The superiority of the promoted group over the nonpromoted group is asserted in these two areas of achievement.
2. Reading comprehension. The obtained difference in means was significant at the .05 level. It is reasonably certain that the promoted pupils did better than the nonpromoted on this section of the test.
3. Arithmetic fundamentals and total arithmetic achievement. Significance beyond the .01 level in each case marks the difference between the means. Clearly, the two groups differ significantly in achievement in these two achievement areas. The evidence is conclusively in favor of the promoted group.
4. Arithmetic reasoning. The observed difference, though small, is significant at the .05 level of confidence. There is sufficient evidence to indicate that the promoted group possesses - in terms of the test items - better arithmetic reasoning ability than the nonpromoted pupils.

5. Mechanics of English. On present evidence the two groups differ slightly in mean achievement at the .05 level. Although there is only a small significant difference between the performances of the two groups, it is reasonably certain that the promoted group is superior in this area.

6. Spelling and total language achievement. The null hypothesis of no difference is accepted in each area. Evidence is lacking from these data to demonstrate that the promoted and nonpromoted groups react differently to the test items in these sections.

7. Total test achievement. The observed difference is highly significant at the .01 level. On the basis of available evidence it can be concluded that the achievement of the promoted group is significantly superior to that of the nonpromoted group when evaluated in terms of the total-test scores used.

8. Summary. This study attempted to determine the effects of promotion and nonpromotion at the grade three level on the achievement of two matched groups of promoted and nonpromoted pupils when this achievement was measured three years later. In the comparison of the achievement of the two groups, the statistical tests showed that the promoted pupils were superior to the nonpromoted pupils in eight aspects of achievement. The differences between the two groups in spelling and language were not statistically significant. It can be concluded, when the effects are evaluated in terms of measured achievement, that promo-

tion was of more benefit to the group of low-achievers who were promoted to grade four than nonpromotion was to the group of low-achievers who were required to repeat the third grade.

II. IMPLICATIONS

The findings of this experiment indicate that in the long-run pupils in the elementary school do not learn more by repeating a grade. In fact, the findings show that few, if any, long-term benefits accrue to pupil achievement from nonpromotion. It must be remembered, however, before generalizing from the reported typical differences, that errors in measurement may have occurred.

Another caution must be observed. Lack of data did not permit a comparison of the levels of achievement of the promoted and nonpromoted groups with those of their classmates. If the difference between the grade-six promoted-group median and the grade-six median of their peers is greater than the difference between the grade-five nonpromoted-group median and that of their peers then this difference would be another indication of the superiority of the promoted group over the nonpromoted. Conversely, if the difference was in favor of the grade-five nonpromoted group, then it would mean that in the long-run the nonpromoted group may benefit more from the nonpromotion than the promoted group did from the promotion. In other words, if the converse were true then it could be assumed that when these grade five pupils reached grade six that their average attainment in the fields tested would be farther above the average attainment of their peers, than the

present promoted group's average is above their peers. Thus, on one hand the findings of this experiment might be somewhat substantiated, while on the other hand they might be partially contradicted.

There are a number of possible explanations for the inability of low-achievers to profit academically from nonpromotion. One may be in the fact that the repetition of curricula was less stimulating than the challenge of new material. Moreover, the nonpromoted child, possessed by a 'defeatism' type of attitude caused by repeated failure and ridicule, may not have worked to the best of his ability.

The findings suggest that all children should be promoted. However, school workers must realize that automatic promotions will not change a pupil's learning rate, nor guarantee him the instructional material or the kind of instruction he needs. Since our graded system is likely to persist for some time, educators might exercise more care in the selection of pupils for nonpromotion and in adapting instruction to the needs of the low-achiever. Recognition must be given to the fact that whether a child is promoted or not, adequate subsequent provisions must be made for him. It would seem that neither promotion nor nonpromotion offers a very satisfactory solution to the problems posed by the low-achiever.

III. RECOMMENDATIONS

Short Term

There are certain immediate steps that educators could take which might improve the teaching-learning situation for these low-achievers.

One, which may be assumed to be an attempt to adapt instruction to the needs of the pupils concerned, is the provision of more supplementary materials. By definition, these may be thought of as materials other than those commonly provided for all pupils at the grade-level at which the subject was enrolled. A second, is the provision of diagnostic and remedial instruction at the point of error for pupils classified as low-achievers. A third step, which may give information and assistance to teachers, is the provision of in-service training in regard to available materials and recommended remedial methods. Fourth, is the provision by school boards of the necessary special treatment or auxiliary services, such as visiting teachers, teacher-consultants, remedial classes, and the like. Another, is the provision of leadership by principals and superintendents in cooperative staff evaluations of promotion policies and other phases of the teaching-learning situation.

Long Range

The short term approach tends to focus on the symptoms rather than the cause of our promotion problem. The eventual solution probably lies in the development of a form of school organization in which the necessity of promotional decisions would not occur. Such a form would eliminate traditional grade-level lines and the curriculum rigidity that tends to result. It would substitute a flexible method of pupil classification permitting the continuous progress of pupils from one term to the next. If at the same time provisions were made for individualized instruction, it might be possible to improve and enrich the educational

development of all pupils.

A number of school systems are experimenting with nongraded or continuous progress plans of this sort. Basically these plans at the elementary level represent an attempt to provide a single, unbroken learning continuum through which pupils progress in flexible instructional groups in accord with individual capacities. Enough is already known to serve as a guide to those wishing to attempt some modification in both the structure and curriculum of the elementary school.¹

Other long-term planning might include the institution of a public relations program, further research and recent Royal Commission recommendations as outlined below. It is doubtful if any new plan could succeed without the cooperation of parents. A proper public relations program might help the home and community become more aware of their influence on pupil progress and help them realize how this influence can enable the school to serve pupils more adequately. Further, research might be attempted on the effect on pupil progress of attendance, retardation, parental occupation, size of family, birth order, ethnic origin, physical disability, delinquency and discipline problems. This information, pertinent to the pupils of this experiment, is recorded at the University and would be available for such a study. The fact that seven times more pupils are retarded than are accelerated, and that the

¹ R.C. Ritchie, "A Survey of Selected Nongraded Elementary School Programs in Canada and the United States." (unpublished Master's thesis, The University of Alberta, 1960).

failure rate for boys is twice as high as for girls, points the way to other research needed. The Royal Commission² recommended that the Provincial Government exercise leadership in matters of retardation, promotions, tests, curricula, accredited schools, libraries, instructional aids, research, teacher certification, special services and others, so as to assist teachers in meeting the problem of individual differences. If these recommendations are instituted, it might be possible to bring about greater gains in achievement for pupils categorized as low-achievers.

As long as there is adherence to a rigid grade structure with its artificial steps at each year, it will be possible to treat only the symptoms of the promotion problem. Artificial curriculum and grade barriers must be eliminated to allow pupils to progress gradually through the system. Full consideration must be given for not only mental growth but for physical, social and all other forms of growth. Any change in promotion philosophy will require a change in the beliefs and the attitudes of people. Since any change in people, in organization and in curricula will require time, it seems evident that those concerned should, first, initiate the preliminary planning necessary in any long-term reorganization and, secondly, review present promotional practices in the light of the findings of available research.

² Province of Alberta, Report of the Royal Commission on Education: 1959. (Edmonton: Queen's Printer, 1959), pp. 437-459.

CHAPTER V

SUMMARY

The main purpose of this study was to evaluate, three years after the promotional decision, the long-term effects of promotion and nonpromotion on the achievement of matched groups of promoted and nonpromoted pupils in the elementary school. The study evolved out of a cooperative longitudinal experiment begun in May, 1956 when the intelligence and achievement of some thirty-six hundred third grade pupils in the Edmonton Public Schools were measured. In the earlier study,¹ sixty-six of the nonpromoted pupils were paired and matched on the basis of intelligence, sex, chronological age, total achievement and socio-economic factors with a like number of promoted pupils. When the achievement of the two groups was compared one year later, the nonpromoted low-achievers made no greater, and often less, gain than the promoted.

All grade-six pupils in the system and as many of the nonpromoted pupils from the earlier study as could be located were tested in the same areas in May, 1959. The California Achievement Test (Junior High Battery), and the California Test of Mental Maturity (Elementary) were used. After the groups were rematched on the basis of sex and I.Q., there remained forty of the original sixty-six pairs. The promoted

¹Worth, op.cit., pp. 26-28.

pupils were in grade six while the nonpromoted were in the fifth grade. The elapsed time from the promotional decision was three years - the same for each group.

No related experiment with equivalent groups of promoted and non-promoted elementary pupils was extended over much more than a ten-month period. None provided, except in the reading area, any indication of what the long-term benefits of nonpromotion or promotion towards better achievement might have been.

In the present study, the comparisons in achievement were analyzed by application of a *t* test of the significance of the difference between the means of matched groups using the correlations between each of the ten achievement areas and intelligence. The statistical tests detected significant differences at the .01 level in favor of the promoted group in reading vocabulary, total reading, arithmetic fundamentals, total arithmetic, and total test achievement. At the .05 level there were significant differences in favor of the promoted group in reading comprehension, arithmetic reasoning, and mechanics of English. There was no significant difference in spelling and total language.

CONCLUSIONS

1. The promoted group was superior to the nonpromoted group in test achievement in eight areas, namely, reading vocabulary, reading comprehension, total reading, arithmetic fundamentals, arithmetic reasoning, total arithmetic, mechanics of English and total achievement.
2. There was no difference between the test achievement of the

two groups in spelling and total language.

3. In summary, it can be concluded that in general, in the areas of achievement measured three years after the promotional decision, the benefits of promotion for the forty low-achievers who had been promoted to the fourth grade were greater than the benefits for a like number of nonpromoted achievers who were required to repeat the third grade.

IMPLICATIONS

1. The findings from this study indicate that in the long-run nonpromotion has a detrimental effect on the achievement of the pupils in the elementary school.

2. Conversely, promotion has a beneficial effect on pupils' achievement.

3. Nonpromotion cannot be justified on the grounds that it improves subject-matter achievement.

4. It must be remembered, however, before generalizing from the reported typical differences, that errors in measurement may have occurred, and that the repetition of curricula and a 'defeatism' attitude may have acted as deterrents to the nonpromoted low-achiever.

5. No comparison of the levels of achievement of the promoted and nonpromoted groups with those of their classmates was made because the data needed was unavailable. These differences might have either further substantiated or partially contradicted the findings of this experiment.

6. Promotion policies in schools and systems need to be review-

ed and evaluated in the light of the findings of this experiment.

7. If all children were to be promoted then some form of organization may be necessary to fit more closely the task of the low-achiever to his ability.

8. Automatic promotions will not change a child's learning rate, nor provide the type of instruction he needs. Whether he is promoted or not, adequate subsequent provisions must be made for him. Neither promotion nor nonpromotion in itself seems to offer a satisfactory solution to the problem.

RECOMMENDATIONS

The following recommendations concerning the promotion problem have arisen from the findings and conclusions of this experiment:

Short Term

1. That schools and systems conduct evaluations of present promotion policies and practices in the light of the findings of research in order to clarify the bases for promotional decisions, and to reduce the incidence of nonpromotion for the purpose of improving school achievement.

2. That principals and superintendents give leadership in instituting cooperative staff evaluations of promotion policies used in their individual units.

3. That more supplementary materials be provided to aid instruction of the low-achiever.

4. That standardized testing programs be initiated with a view of assisting teachers in the recognition and diagnosis of these cases.

5. That more pre-service and in-service training for teachers be provided in order to help them handle the diagnostic and remedial treatment of the low-achiever.

6. That school boards hire more auxiliary or special personnel who can assist and train teachers in this in-service work.

Long Term

1. That experiments be continued with 'streaming' or continuous progress plans with a view to eliminating many of the problems associated with promotion and nonpromotion. This form of school organization would eliminate grade-level lines, curriculum rigidity and the need of promotional decisions.

2. That public relations programs be established to help the home and community become more aware of their influence on pupil progress.

3. That research be undertaken to investigate: (1) the effect of promotion and nonpromotion on these groups of pupils when they reach the ninth grade, (2) the effects of pupils' social problems on pupil progress, (3) the reason for a higher promotion rate for girls than for boys, (4) the reasons why more pupils are retarded than are accelerated. Studies in these areas are necessary so that the above factors may receive the proper emphasis in the planning of future educational programs.

4. That leadership be provided by the Provincial Department of Education in implementing the recommendations of the Royal Commission in the areas of teacher training, curricula, instructional aids, tests, and special services so that the educator can better meet the problems posed by the low-achiever.

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